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UTILITY APPLICATION AND APPLICATION FEE TRANSMITTAL (1.53(b))

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Sir:

Transmitted herewith for filing is the patent application of

Named Inventor(s) and
Address(es):

Koji OKAMURA, 13-2-208, Kitakashiwadai, Kashiwa-shi, Chiba-ken, Japan

For:

COMMUNICATION APPARATUS CAPABLE OF AUTOMATIC ACTIVATION OF
FORWARDING SETUP INSTRUCTED BY REMOTE ACCESS, AND CONTROL
METHOD THEREOF

Enclosed are:

[X] 21 page(s) of specification, 1 page(s) of Abstract, 6 Page(s) of claims

[X] 4 sheets of drawing [X] formal [] informal

[X] 6 Page(s) of Declaration and Power of Attorney

[] Unsigned

[X] Newly Executed

[] Copy from prior application

[] Deletion of inventors including Signed Statement under 37 C.F.R. § 1.63(d)(2)

[X] Incorporation by Reference: The entire disclosure of the priority application(s) identified below, is considered as being part of the disclosure of the accompanying application and is incorporated herein by reference.

[] Microfiche Computer Program (Appendix)

[] page(s) of Sequence Listing

[] computer readable disk containing Sequence Listing

[] Statement under 37 C.F.R. § 1.821(f) that computer and paper copies of the Sequence Listing are the same

[X] Claim for Priority Japanese Application Nos. 10-117833 filed 4/13/98; 10-128200 filed 4/22/98 and 11-081753 filed 3/25/99

- ☐ Certified copy of Priority Document(s)
- ☐ English translation documents
- ☐ Information Disclosure Statement
- ☐ Copy of cited references w/ English Abstracts
- ☐ Copy of PTO-1449 filed in parent application serial No.
- ☐ Preliminary Amendment
- ☒ Return receipt postcard (MPEP 503)
- ☒ Assignment Papers (assignment cover sheet and assignment documents)
- ☒ A check in the amount of \$40.00 for recording the Assignment.
- ☐ Assignment papers filed in parent application Serial No. .
- ☐ Certification of chain of title pursuant to 37 C.F.R. § 3.73(b).
- ☐ This is a ☐ continuation ☐ divisional ☐ continuation-in-part (C-I-P) of prior application serial no. .
- ☐ Cancel in this application original claims of the parent application before calculating the filing fee. (At least one original independent claim must be retained for filing purposes.)
- ☐ A preliminary Amendment is enclosed. (Claims added by this Amendment have been properly numbered consecutively beginning with the number following the highest numbered original claim in the prior application.
- ☐ The status of the parent application is as follows:
- ☐ A Petition For Extension of Time and a Fee therefor has been or is being filed in the parent application to extend the term for action in the parent application until .
- ☐ A copy of the Petition for Extension of Time in the co-pending parent application is attached.
- ☐ No Petition For Extension of Time and Fee therefor are necessary in the co-pending parent application.
- ☐ Please abandon the parent application at a time while the parent application is pending or at a time when the petition for extension of time in that application is granted and while this application is pending has been granted a filing date, so as to make this application co-pending.
- ☐ Transfer the drawing(s) from the patent application to this application.
- ☐ Amend the specification by inserting before the first line the sentence:
This is a ☐ continuation ☐ divisional ☐ continuation-in-part of co-pending application Serial No. filed .

I. CALCULATION OF APPLICATION FEE (For Other Than A Small Entity)

				Basic Fee
	Number Filed		Number Extra	Rate
Total				\$ 760.00
Claims	29	-20=	9	x\$18.00 \$ 162.00
Independent				
Claims	3	- 3=	0	x78.00 \$ 0
Multiple Dependent Claims				
	<input type="checkbox"/>] yes		Additional Fee =	\$260.00
	<input checked="" type="checkbox"/>] no		Add'l Fee =	NONE \$

Total: \$922.00

- ☐ A statement claiming small entity status is attached or has been filed in the above-identified parent application and its benefit under 37 C.F.R. § 1.28(a) is hereby claimed. Reduced fees under 37 C.F.R. § 1.9(F) (50% of total) paid herewith \$ _____.
- ☒ A check in the amount of \$922.00 for payment of the application filing fees is attached.
- ☐ Charge Fee(s) to Deposit Account No. 13-4500. Order No. _____. A DUPLICATE COPY OF THIS SHEET IS ATTACHED.
- ☒ The Assistant Commissioner is hereby authorized to charge any additional fees which may be required for filing this application, or credit any overpayment to Deposit Account No. 13-4500, Order No. 1232-4534. A DUPLICATE COPY OF THIS SHEET IS ATTACHED.

Respectfully submitted,

MORGAN & FINNEGAN, L.L.P.

By: Michael M. Murray
Registration No 32,837Dated: April 8, 1999

CORRESPONDENCE ADDRESS:

MORGAN & FINNEGAN, L.L.P.
345 Park Avenue
New York, New York 10154
(212) 758-4800
(212) 751-6849 Facsimile

TITLE OF THE INVENTION
COMMUNICATION APPARATUS CAPABLE OF AUTOMATIC ACTIVATION
OF FORWARDING SETUP INSTRUCTED BY REMOTE ACCESS, AND
CONTROL METHOD THEREOF

5

BACKGROUND OF THE INVENTION

FIELD OF THE INVENTION

The present invention relates to a communication
apparatus which can automatically activate the
10 forwarding setup instructed by remote access, and its
control method.

DESCRIPTION OF THE RELATED ART

As one of supplementary services of ISDN
15 (Integrated Services Digital Network), a call forwarding
unconditional (to be abbreviated as CFU hereinafter)
function is known.

The user can use this CFU when he or she makes a
contract with a telephone service company in advance.
20 With this service, when the user informs the network of
the telephone number of the own ISDN terminal apparatus
and a forwarded-to number, the network automatically
forwards an incoming call corresponding to the telephone
number of the own terminal apparatus to the forwarded-to
25 number.

In the conventional ISDN terminal apparatus with the CFU function, the user operates a console of his or her terminal apparatus to activate/deactivate CFU every time he or she wants to activate/deactivate CFU.

5 However, in the prior art, the user must directly operate the ISDN terminal apparatus every time he or she activates/deactivates CFU. For example, even when the user wants to activate the CFU function at a visit site, he or she cannot activate the CFU function from the
10 visit site.

SUMMARY OF THE INVENTION

It is an object of the present invention to allow to activate a forwarding function such as CFU by remote
15 access.

It is another object of the present invention to inform the forwarding activation result instructed by remote access.

Other features and advantages of the present
20 invention will be apparent from the following description taken in conjunction with the accompanying drawings, in which like reference characters designate the same or similar parts throughout the figures thereof.

25 BRIEF DESCRIPTION OF THE DRAWINGS

Fig. 1 is a block diagram showing the arrangement of a facsimile apparatus according to an embodiment of the present invention;

Fig. 2 is a flow chart showing the operation according to the first embodiment of the present invention;

Fig. 3 is a flow chart showing the operation according to the second embodiment of the present invention; and

Fig. 4 is a flow chart showing the operation according to the third embodiment of the present invention.

DESCRIPTION OF THE PREFERRED EMBODIMENTS

(First Embodiment)

In the embodiment of the present invention, a facsimile apparatus will be exemplified as a kind of ISDN terminals in detail. Fig. 1 is a block diagram showing the arrangement of a facsimile apparatus of this embodiment.

An MPU 101 controls the overall apparatus via a system bus 112, and a ROM 102 stores a control program of the apparatus. A RAM 103 stores a remote access password, calling party number, forwarded-to number, notified-to number, destination telephone number, received image data, and the like.

A console 104 has operation keys used for making various inputs, and a display such as an LCD or the like for making various displays. A reader is a scanner for optically reading an original image. A timepiece unit 5 106 is a timer for measuring time, and a network control unit 107 connects or disconnects a call to or from the network.

A communication unit 108 modulates data to be transmitted to an ISDN line 113, demodulates data 10 received from the ISDN line 113, detects a DTMF (Dual Tone Multi-Frequency) signal, generates a voice guidance message, and so forth, so as to exchange data with a partner station. A recorder 109 is a printer for recording a received image or the like.

15 An encoder 110 encodes image data, and a decoder 111 decodes encoded image data.

Fig. 2 is a flow chart showing the operation upon activating CFU by remote access according to this embodiment.

20 In this embodiment, the user at a remote place, e.g., at a visit site, calls the facsimile apparatus of this embodiment (to be referred to as a remote-accessed facsimile hereinafter) from the handset of a facsimile apparatus to be designated as a forwarded-to site (to be 25 referred to as a remote facsimile hereinafter) via ISDN so as to activate CFU.

In the remote-accessed facsimile, the network control unit 107 automatically sets up a call in response to SETUP from the network (S201). In this case, when the network notifies the network control unit of the calling party number, the network control unit stores this number as a forwarded-to number in the RAM 103.

The remote-accessed facsimile processes this call as a G3 communication since it is placed by a telephone, and begins to detect DCS while outputting DIS (S202, S203). At the same time, the remote-accessed facsimile starts detection of a password using a DTMF signal (S204).

Upon detecting DCS, it is determined that the calling party has requested a G3 FAX communication, and the control advances to a G3 FAX reception process (S212). Note that the G3 FAX reception process is known to those who are skilled in the art, and a detailed description thereof will be omitted.

Upon detecting the remote access password sent by the DTMF signal, the flow advances to step S205.

More specifically, when the user at the remote facsimile (calling party) confirms that a call has been set up at the remote facsimile (to open DIS), he or she sends a remote access password using a DTMF signal to remote-access the remote-accessed facsimile. Note that

the user arbitrarily registers the remote access password in the remote-accessed facsimile by predetermined registration at the console 104, and the registered password is stored in the RAM 103.

5 Upon detecting the remote access password in step S204, the control of the remote-accessed facsimile advances to step S205 to evaluate the password. That is, the remote access password registered in advance in the RAM 103 of the remote-accessed facsimile is compared
10 with that sent from the remote facsimile. If "non-coincidence" is detected, the call is disconnected to interrupt the process; otherwise, the flow advances to step S206.

 In step S206, it is checked if the calling party
15 number is stored in the RAM 103 as a forwarded-to number. If the network does not notify the apparatus of the calling party number upon receiving the call and no calling party number is stored in the RAM 103, the flow advances to step S207; otherwise, the flow advances to
20 step S208.

 In step S207, a forwarded-to number is received. Since the user does not know as to whether or not the remote-accessed facsimile is informed of the calling party number, a voice guidance message for prompting the
25 user to notify the forwarded-to number is output. In

place of the voice guidance message, a predetermined tone signal or the like may be output.

- In response to this signal, the user outputs a forwarded-to number using a DTMF signal, and the
- 5 remote-accessed facsimile stores the forwarded-to number sent from the user in the RAM 103.

- If the forwarded-to number is wrong, not only the user feels inconvenient but also the user at the site which receives the call also experiences much trouble.
- 10 Hence, in step S209, if the forwarded-to number is right is evaluated. More specifically, if the forwarded-to number is the calling party number notified from the network in step S201, it is unconditionally determined to be "right", and the flow advances to step S209.

- 15 However, when the forwarded-to number is notified by user's operation in step S207, that number is evaluated by combining a method of making the user confirm the number by means of a voice message, a method of comparing the forwarded-to number with destination
- 20 telephone numbers registered in the remote-accessed facsimile and determining "right" if coincidence is detected, and the like.

- As a result, if the forwarded-to number is right, the flow advances to step S209; otherwise, the call is
- 25 disconnected to interrupt the process. In this embodiment, the call is disconnected if it is determined

in step S208 that the forwarded-to number is wrong. Alternatively, the remote-accessed facsimile may ask the user to transmit the forwarded-to number again.

In step S209, the user notifies an activation time
5 period or deactivation time for CFU using a DTMF signal or modem signal in accordance with a voice guidance message or tone signal output from the remote-accessed facsimile. The remote-accessed facsimile receives that time period or time, and stores it in the RAM 103.

10 In step S210, the user is informed using a voice message or tone signal that a call forwarding instruction has been normally accepted. The call is disconnected in step S211, and an activation request of CFU to the forwarded-to number stored in the RAM 103 is
15 issued to the network in step S212.

After that, the control stays in the loop of step S213 until the time designated in step S209 is reached or the designated time period elapses, thus activating CFU.

20 If the time designated in step S209 has been reached or the designated time period has elapsed, the control leaves the loop in step S213, and outputs a CFU deactivation request to the network in step S214, thus ending the process.

25 In this manner, according to this embodiment, the user at a visit side or the like can activate the call

forwarding function of the remote-accessed facsimile,
and can instruct the apparatus to deactivate the call
forwarding function at the designated time or after an
elapse of the designated time period. Hence, the user
5 can desirably operate the remote-accessed facsimile from
a visit site to utilize the CFU function.

(Second Embodiment)

In this embodiment as well, a facsimile apparatus
will be exemplified as a kind of ISDN terminals in
10 detail. The arrangement of the facsimile apparatus of
this embodiment is the same as that of the first
embodiment shown in Fig. 1, and a detailed description
thereof will be omitted.

Fig. 3 is a flow chart showing operation upon
15 activating CFU by remote access according to this
embodiment.

In this embodiment, the user at a remote place,
e.g., at a visit side, calls the facsimile apparatus of
this embodiment (to be referred to as a remote-accessed
20 facsimile hereinafter) from the handset of a facsimile
apparatus to be designated as a forwarded-to site (to be
referred to as a remote facsimile hereinafter) via ISDN
so as to activate CFU.

In the remote-accessed facsimile, the network
25 control unit 107 automatically sets up a call in
response to SETUP from the network (S301). In this case,

the calling party number sent from the network is stored in the RAM 103 to prepare for a case wherein the step of outputting a forwarded-to number later is skipped.

5 The remote-accessed facsimile processes this call as a G3 communication since it is placed by a telephone, and begins to detect DCS while outputting DIS (S302, S303). At the same time, the remote-accessed facsimile starts detection of a password using a DTMF signal (S304).

10 Upon detecting DCS, it is determined that the calling party has requested a G3 FAX communication, and the control advances to a G3 FAX reception process (S317). Note that the G3 FAX reception process is known to those who are skilled in the art, and a detailed
15 description thereof will be omitted.

 Upon detecting the remote access password by the DTMF signal, the flow advances to step S305.

 More specifically, when the user at the remote facsimile (calling party) confirms that the call has
20 been set up at the remote facsimile (to open DIS), he or she sends a remote access password using a DTMF signal to remote-access the remote-accessed facsimile. Note that the user arbitrarily registers the remote access password in the remote-accessed facsimile by
25 predetermined registration at the console 104, and the registered password is stored in the RAM 103.

Upon detecting the remote access password in step S304, the control of the remote-accessed facsimile advances to step S305 to evaluate the password. That is, the remote access password registered in advance in the RAM 103 of the remote-accessed facsimile is compared with that sent from the remote facsimile. If "non-coincidence" is detected, the call is disconnected to interrupt the process; otherwise, the flow advances to step S306.

10 In step S306, a forwarded-to number and notified-to number are received. The user sends the forwarded-to number and notified-to number using a DTMF signal, modem signal, or the like in accordance with a voice guidance message or tone signal output from the remote-accessed facsimile, and the remote-accessed facsimile stores the forwarded-to number and notified-to number sent from the user in the RAM 103.

In this case, sending of the notified-to number is not mandatory, and if that number is not designated, the forwarded-to number is also used as the notified-to number. Also, sending of the forwarded-to number can be skipped if the calling party number is stored in step S301 as in the first embodiment.

If the forwarded-to number is wrong, not only the user feels inconvenient but also the user at the site which receives the call also experiences much trouble.

Hence, in step S307, if the forwarded-to number is right is evaluated. More specifically, if the forwarded-to number is the calling party number notified from the network in step S301, it is unconditionally determined
5 that the forwarded-to number is "right", and the flow advances to step S308.

However, when the forwarded-to number is notified by user's operation in step S306, that number is evaluated by combining a method of making the user
10 confirm the number by means of a voice message, a method of comparing the forwarded-to number with destination telephone numbers registered in the remote-accessed facsimile and determining "right" if coincidence is detected, and the like.

15 As a result, if the forwarded-to number is right, the flow advances to step S308; otherwise, the call is disconnected to interrupt the process. In this embodiment, the call is disconnected if it is determined in step S307 that the forwarded-to number is wrong.
20 Alternatively, the remote-accessed facsimile may ask the user to transmit the forwarded-to number again.

In step S308, the user notifies an activation time period or deactivation time of CFU using a DTMF signal or modem signal in accordance with a voice guidance
25 message or tone signal output from the remote-accessed

facsimile. The remote-accessed facsimile receives that time period or time, and stores it in the RAM 103.

In step S309, the user is informed using a voice message or tone signal that a call forwarding

5 instruction has been normally accepted. The call is disconnected in step S310, and an activation request of CFU to the forwarded-to number stored in the RAM 103 is issued to the network in step S311. At this time, the activation result notified from the network is stored in
10 the RAM 103.

After the CPU activation request process in step S311, if the notified-to number is stored, that number is called; otherwise, the forwarded-to number is called to notify the user of the CFU activation request result
15 stored in the RAM 103 by means of a voice message or tone signal (S312).

Note that the user may leave the forwarded-to site as soon as he or she activates CFU of the facsimile at his home or office by remote access. Hence, notification
20 of the CFU activation request result to the user may be turned "ON/OFF" in user setups. More specifically, such CFU activation request result notification mode may be allowed to be registered in a predetermined area of the RAM 103 of the remote-accessed facsimile as a result
25 notification mode, and notification may be skipped in decision of the remote-accessed facsimile.

Alternatively, the user may be allowed to turn on/off result notification using a DTMF signal from the remote facsimile in step S306. If "result notification ON" is selected, the notified-to number may be received, and the result notification mode may be set.

In step S313, the CFU activation request result is evaluated. If CFU activation is rejected or fails, the process is interrupted; otherwise, the flow advances to step S314.

In step S314, the control stays in the loop of step S314 until the time designated in step S308 is reached or the designated time period elapses, thus activating CFU.

If the time designated in step S308 has been reached or the designated time period has elapsed, the control leaves the loop in step S314, outputs a CFU deactivation request to the network, and stores a deactivation result sent from the network at that time in the RAM 103 in step S315.

In step S316, if the notified-to number is stored, that number is called; otherwise, the forwarded-to number is called to notify the user of the CFU deactivation result stored in the RAM 103 in step S315 by means of a voice message or tone signal, thus ending the process.

Note that the user may leave the forwarded-to site as soon as he or she activates CFU of the facsimile at his home or office by remote access. Hence, notification of the CFU deactivation result to the user may be turned

5 "ON/OFF" in user setups. More specifically, such CFU deactivation result notification mode may be allowed to be registered in a predetermined area of the RAM 103 of the remote-accessed facsimile as a result notification mode, and notification may be skipped in decision of the

10 remote-accessed facsimile. In this way, unwanted calls can be prevented from being placed.

Also, as in the setups of notification of the CFU activation request result, the notification mode of the CFU deactivation result may be turned "ON/OFF" using a

15 DTMF signal from a remote facsimile.

By combining setups of this CFU deactivation result notification mode and the CFU activation request notification mode described above in step S312, either or both of CFU activation request result and CFU

20 deactivation result can be desirably notified.

As described above, according to this embodiment, the user can issue a CFU activation request and CFU deactivation request at a designated time or after an elapse of a designated period of time from a telephone

25 at a visit site to the remote-accessed facsimile, and can reliably recognize the CFU activation state by

receiving the CFU activation request result. Furthermore, the user can also receive the CFU deactivation request result at the designated time or after an elapse of the designated period of time. Hence, after this message, the user can designate another forwarded-to site or can instruct to extend the forwarding time period, thus desirably utilizing the CFU function.

(Third Embodiment)

In the first and second embodiments described above, when the calling party number is received from the network upon receiving a call, the received calling party number is unconditionally used as a forwarded-to number.

However, an apparatus used for making remote access is not always used as a forwarded-to apparatus.

That is, the user may want to forward data to an apparatus different from the apparatus he or she is using to make remote access.

In this embodiment, each user who makes remote access is inquired as to whether or not the calling party number received upon reception of a call is used as a forwarded-to number, and whether or not the calling party number is used as a forwarded-to number is determined by user instruction.

With this control, the user can use the calling party number as a forwarded-to number, or when the user

wants to use an apparatus different from that he or she used to place that call, he or she can designate that apparatus as a forwarded-to site apparatus.

In this embodiment as well, a facsimile apparatus
5 will be exemplified as a kind of ISDN terminals in detail. The arrangement of the facsimile apparatus of this embodiment is the same as that of the first embodiment shown in Fig. 1, and a detailed description thereof will be omitted.

10 Fig. 4 is a flow chart showing operation upon activating CFU by remote access according to this embodiment.

Note that steps S401 to S405 and S417 in Fig. 4 are the same as steps S201 to S205 and S215 in Fig. 2
15 described in the first embodiment, and steps S301 to S305 and S317 in Fig. 3 described in the second embodiment, and a detailed description thereof will be omitted.

In step S406 in Fig. 4 it is checked if a calling
20 party number is stored in the RAM 103 in step S401. If no calling party number is stored, the flow advances to step S407; otherwise, the flow advances to step S415.

In step S415, the user who made access is notified of the calling party number received in step S401, and a
25 message that inquires the user as to whether or not the

calling party number is used as a forwarded-to number is transmitted.

It is then checked in step S416 based on the user's instruction using a DTMF signal if the calling party number is used as a forwarded-to number. If the calling party number is not used as a forwarded-to number, the flow advances to step S407; otherwise, the flow advances to step S408.

In step S407, a voice guidance that prompts the user who made remote access to transmit a forwarded-to number is output, and the forwarded-to number sent from the user is received. Then, the flow advances to step S408. Note that a predetermined tone signal or the like may be output in place of the voice guidance.

If the forwarded-to number is wrong, not only the user feels inconvenient but also the user at the site which receives the call also experiences much trouble. Hence, in step S408, if the forwarded-to number is right is evaluated. If it is evaluated that the received number is "right", the flow advances to step S409; otherwise, the call is disconnected to interrupt the process. As in the first and second embodiments, the control may ask the user to re-send a forwarded-to number.

Upon evaluating if the forwarded-to number is right, as in the first and second embodiments, when the

forwarded-to number is the calling party number notified from the network in step S401, it is unconditionally determined that the forwarded-to number is "right"; if the forwarded-to number is received by user operation in
5 step S407, a method of making the user confirm the number by means of a voice message, a method of comparing the forwarded-to number with destination telephone numbers registered in the remote-accessed facsimile and determining "right" if coincidence is
10 detected, and the like are used.

In step S409, the user notifies an activation time period or deactivation time of CFU using a DTMF signal or modem signal in accordance with a voice guidance message or tone signal output from the remote-accessed
15 facsimile. The remote-accessed facsimile receives that time period or time, and stores it in the RAM 103.

In step S410, the user is informed using a voice message or tone signal that a call forwarding instruction has been normally accepted. The call is
20 disconnected in step S411, and an activation request of CFU to the forwarded-to number stored in the RAM 103 is issued to the network in step S412.

After that, the control stays in the loop of step S413 until the time designated in step S409 is reached
25 or the designated time period elapses, thus activating CFU.

If the time designated in step S409 has been reached or the designated time period has elapsed, the control leaves the loop in step S413, and outputs a CFU deactivation request to the network in step S414, thus
5 ending the process.

The above description touched upon neither CFU activation result notification nor CFU deactivation notification in the second embodiment. However, as in the second embodiment, CFU activation result
10 notification and CFU deactivation notification may be made.

As described above, according to this embodiment, even when the calling party number is received from the network upon reception of a call, the calling party
15 number can be used as a forwarded-to number or another telephone number can be used as the forwarded-to number.

Note that the operations described in the first to third embodiments above are done by the MPU 101 on the basis of the program stored in the ROM 102. However,
20 according to the present invention, such program may be stored in an external storage medium such as a floppy disk, hard disk, optical disk, CD-ROM, memory card, or the like, and may be loaded into the apparatus and executed by the MPU 101.

25 In the above description, a standalone facsimile apparatus has been exemplified. However, the present

invention is not limited to such specific apparatus, and can be similarly applied to other ISDN terminal apparatuses.

To recapitulate, according to the present
5 invention, a forwarding activation instruction and forwarding deactivation instruction at a designated time (or after an elapse of a designated time period) can be issued by remote access from a remote place to an apparatus in which forwarding such as CFU is to be
10 activated.

As many apparently widely different embodiments of the present invention can be made without departing from the spirit and scope thereof, it is to be understood that the invention is not limited to the specific
15 embodiments thereof except as defined in the appended claims.

WHAT IS CLAIMED IS:

1. A communication apparatus connectable to a communication network, comprising:

reception means for receiving identification
5 information of a calling party via the communication network; and

setting means for setting the communication network to activate call forwarding on the basis of the identification information of the calling party received
10 by said reception means after a call with the calling party is disconnected.

2. The apparatus according to claim 1, wherein said reception means can receive identification information of another communication apparatus transmitted from the
15 calling party, and

said setting means can set the communication network to activate call forwarding on the basis of the identification information of the other communication apparatus.

20 3. The apparatus according to claim 2, wherein said reception means receives the identification of the other communication apparatus depending on whether or not the identification information of the calling party is received.

25 4. The apparatus according to claim 2, wherein said setting means sets the communication network to activate

call forwarding on the basis of the identification information of the calling party or the other communication apparatus in accordance with an instruction from the calling party.

5 5. The apparatus according to claim 1, wherein said setting means sets in accordance with a password sent from the calling party.

6. The apparatus according to claim 1, wherein said reception means also receives time information
10 associated with an activation time of forwarding sent from the calling party, and

said setting means activates forwarding on the basis of the time information.

7. The apparatus according to claim 6, wherein the
15 time information includes information associated with a deactivation time of forwarding.

8. The apparatus according to claim 6, wherein said setting means issues a forwarding deactivation request to the communication network on the basis of the time
20 information.

9. The apparatus according to claim 1, further comprising:

notification means for notifying an activation result of said setting means.

10. The apparatus according to claim 9, wherein said notification means notifies a forwarded-to site set by said setting means of the result.

11. The apparatus according to claim 8, further
5 comprising:

notification means for notifying a deactivation result of said setting means.

12. The apparatus according to claim 11, wherein said notification means notifies a forwarded-to site set by
10 said setting means of the result.

13. The apparatus according to claim 1, wherein the communication network includes an ISDN (Integrated services digital network).

14. The apparatus according to claim 13, wherein said
15 setting means activates a call forwarding unconditional function of the ISDN.

15. A method of controlling a communication apparatus connectable to a communication network, comprising:

the reception step of making said communication
20 apparatus receive identification information of a calling party via the communication network; and

the setting step of setting the communication network to activate call forwarding on the basis of the identification information of the calling party received
25 in the reception step after a call with the calling party is disconnected.

16. The method according to claim 15, wherein the reception step includes the step of making said communication apparatus receive identification information of another communication apparatus transmitted from the calling party, and

the setting includes the step of setting the communication network to activate call forwarding on the basis of the identification information of the other communication apparatus.

17. The method according to claim 16, wherein the reception step includes the step of making said communication apparatus receive the identification of the other communication apparatus depending on whether or not the identification information of the calling party is received.

18. The method according to claim 16, wherein the setting step includes the step of setting the communication network to activate call forwarding on the basis of the identification information of the calling party or the other communication apparatus in accordance with an instruction from the calling party.

19. The method according to claim 16, wherein the setting step includes the step of setting in accordance with a password sent from the calling party.

20. The method according to claim 16, wherein the reception step includes the step of making said

communication apparatus also receive time information associated with an activation time of forwarding sent from the calling party, and

the setting step includes the step of activating
5 forwarding on the basis of the time information.

21. The method according to claim 20, wherein the time information includes information associated with a deactivation time of forwarding.

22. The method according to claim 20, wherein the
10 setting step includes the step of issuing a forwarding deactivation request to the communication network on the basis of the time information.

23. The method according to claim 16, further comprising:

15 the notification step of notifying an activation result in the setting step.

24. The method according to claim 23, wherein the notification step includes the step of notifying a forwarded-to site set in the setting step of the result.

20 25. The method according to claim 22, further comprising:

the notification step of notifying a deactivation result in said setting step.

26. The method according to claim 25, wherein the
25 notification step includes the step of notifying a forwarded-to site set in the setting step of the result.

27. The method according to claim 16, wherein the communication network includes an ISDN (Integrated services digital network).

28. The method according to claim 27, wherein the
5 setting step includes the step of activating a call forwarding unconditional function of the ISDN.

29. A program storage device readable by a machine,
tangibly embodying a program of instructions executable
by the machine to perform method steps for controlling a
10 communication apparatus connectable to a communication network, said method steps comprising:

the reception step of making said communication apparatus receive identification information of a calling party via the communication network; and

15 the setting step of setting the communication network to activate forwarding of a call received by said communication apparatus on the basis of the identification information of the calling party received in the reception step after a call with the calling
20 party is disconnected.

ABSTRACT OF THE DISCLOSURE

A communication network is set to activate forwarding on the basis of identification information of the calling party so as to instruct to activate a
5 forwarding function such as CFU by remote access.

The communication network is also set to activate forwarding on the basis of identification information of another communication apparatus sent from the calling party.

FIG. 1

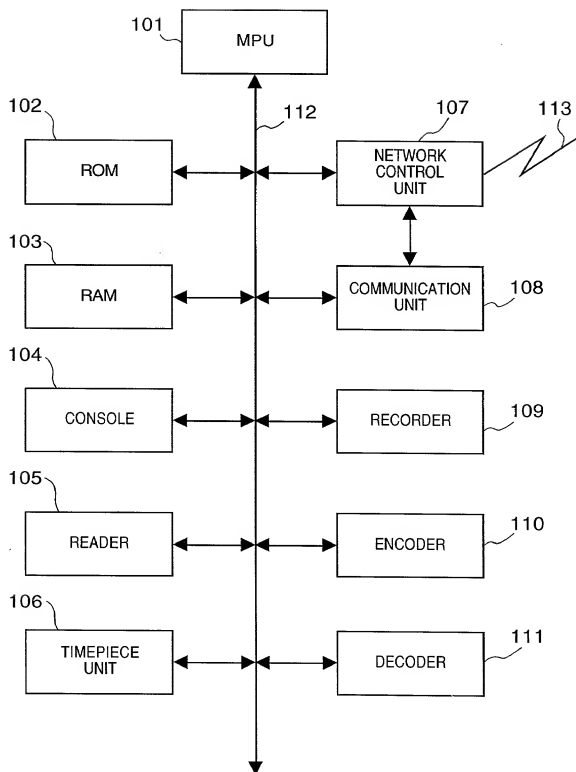
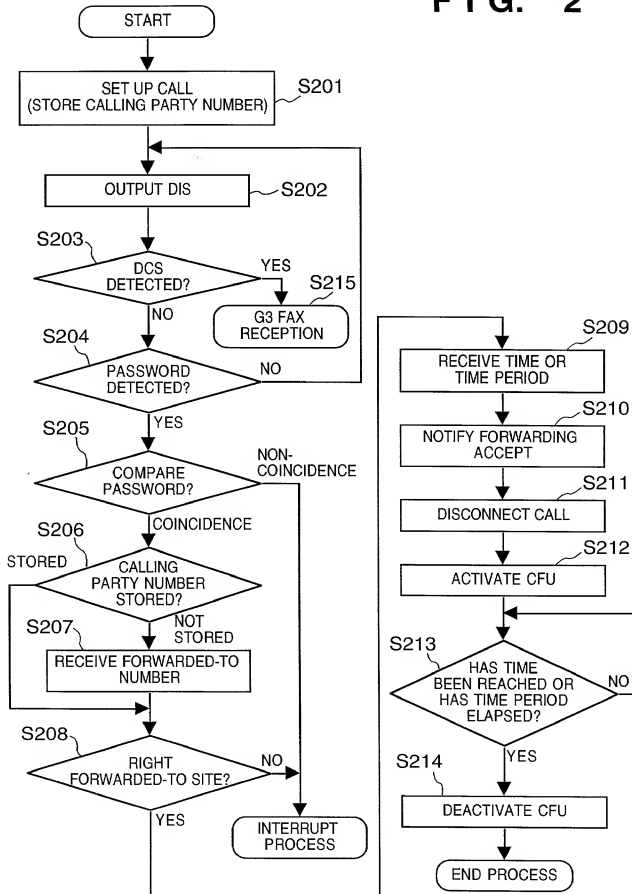


FIG. 2



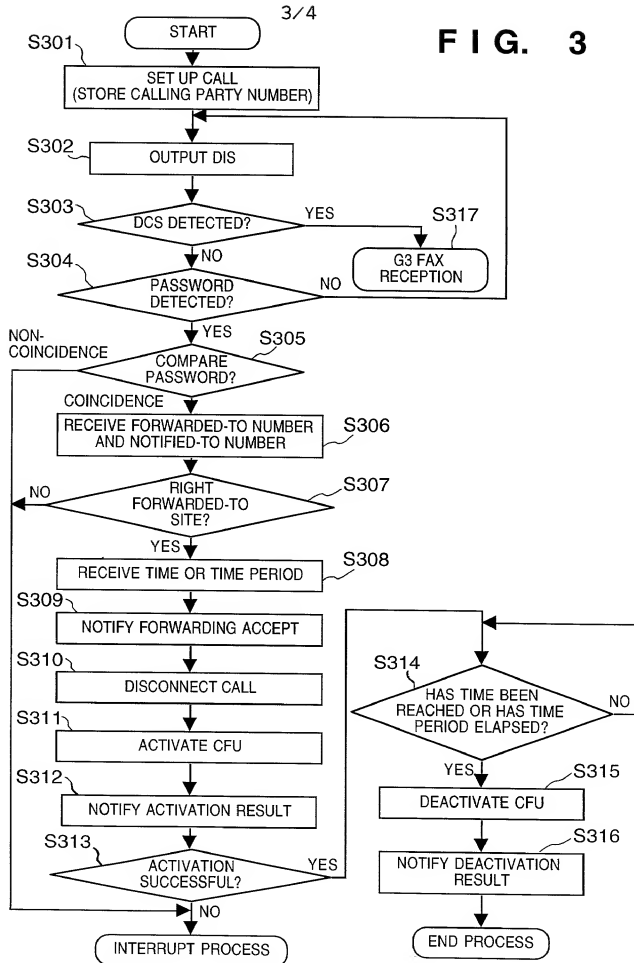
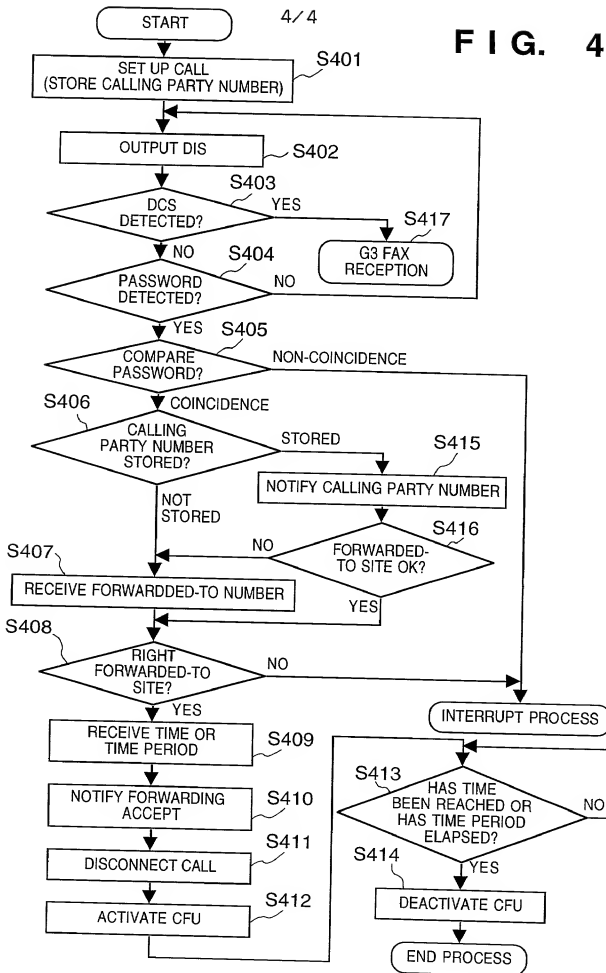


FIG. 4



Docket No. _____

**COMBINED DECLARATION AND POWER OF ATTORNEY FOR
ORIGINAL, DESIGN, NATIONAL STAGE OF PCT, SUPPLEMENTAL,
DIVISIONAL, CONTINUATION OR CONTINUATION-IN-PART APPLICATION**

As a below named inventor, I hereby declare that:

My residence, post office address and citizenship are as stated below next to my name,

I believe I am the original, first and sole inventor (if only one name is listed below) or an original, first and joint inventor (if plural names are listed below) of the subject matter which is claimed and for which a patent is sought on the invention entitled:

COMMUNICATION APPARATUS CAPABLE OF AUTOMATIC ACTIVATION OF FORWARDING
SETUP INSTRUCTED BY REMOTE ACCESS, AND CONTROL METHOD THEREOF
the specification of which

a. ☒ is attached hereto

b. ☐ was filed on _____ as application Serial No. _____ and
was amended on _____ (if applicable).

PCT FILED APPLICATION ENTERING NATIONAL STAGE

c. ☐ was described and claimed in International Application No. _____ filed on
_____ and as amended on _____ (if any).

I hereby state that I have reviewed and understand the contents of the above-identified specification, including the claims, as amended by any amendment referred to above.

I acknowledge the duty to disclose information which is material to the examination of this application in accordance with Title 37, Code of Federal Regulations, § 1.56(a).

I hereby specify the following as the correspondence address to which all communications about this application are to be directed:

SEND CORRESPONDENCE TO: MORGAN & FINNEGAN, L.L.P.
345 Park Avenue
New York, N.Y. 10154

DIRECT TELEPHONE CALLS TO: MICHAEL M. MURRAY
(212) 758-4800

☒ I hereby claim foreign priority benefits under Title 35, United States Code § 119 (a)-(d) or under § 365(b) of any foreign application(s) for patent or inventor's certificate or under § 365(a) of any PCT international application(s) designating at least one country other than the U.S. listed below and also have identified below such foreign application(s) for patent or inventor's certificate or such PCT international application(s) filed by me on the same subject matter having a filing date within twelve (12) months before that of the application on which priority is claimed:

☒ The attached 35 U.S.C. § 119 claim for priority for the application(s) listed below forms a part of this declaration.

Country/PCT	Application Number	Date of filing (day, month, yr)	Date of issue (day, month, yr)	Priority Claimed
JAPAN	10-117833	13/04/1998		[X] YES [] NO
JAPAN	10-128200	22/04/1998		[X] YES [] NO
JAPAN	11-081753	25/03/1999		[X] YES [] NO

[] I hereby claim the benefit under 35 U.S.C. § 119(e) of any U.S. provisional application(s) listed below.

Provisional Application No.

Date of filing (day, month, yr)

ADDITIONAL STATEMENTS FOR DIVISIONAL, CONTINUATION OR CONTINUATION-IN-PART OR PCT INTERNATIONAL APPLICATION(S) DESIGNATING THE U.S.)

I hereby claim the benefit under Title 35, United States Code § 120 of any United States application(s) or under § 365(c) of any PCT international application(s) designating the U.S. listed below.

US/PCT Application Serial No.	Filing Date,	Status (patented, pending, abandoned)/ U.S. application no. assigned (For PCT)

US/PCT Application Serial No.	Filing Date,	Status (patented, pending, abandoned)/ U.S. application no. assigned (For PCT)

[] In this continuation-in-part application, insofar as the subject matter of any of the claims of this application is not disclosed in the above listed prior United States or PCT international application(s) in the manner provided by the first paragraph of Title 35, United States Code, § 112, I acknowledge the duty to disclose material information as defined in Title 37, Code of Federal Regulations, § 1.56(a) which occurred between the filing date of the prior application(s) and the national or PCT international filing date of this application.

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or Imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

I hereby appoint the following attorneys and/or agents with full power of substitution and revocation, to prosecute this application, to receive the patent, and to transact all business in the Patent and Trademark Office connected therewith: John A. Diaz (Reg. No. 19,550), John C. Vassil (Reg. No. 19,098), Alfred P. Ewert (Reg. No. 19,887), David H. Pfeffer, P.C. (Reg. No. 19,825), Harry C. Marcus (Reg. No. 22,390), Robert E. Paulson (Reg. No. 21,046), Stephen R. Smith (Reg. No. 22,615), Kurt E. Richter (Reg. No. 24,052), J. Robert Dailey (Reg. No. 27,434), Eugene Moroz (Reg. No. 25,237), John F. Sweeney (Reg. No. 27,471), Arnold I. Rady (Reg. No. 26,601), Christopher A. Hughes (Reg. No. 26,914), William S. Feiler (Reg. No. 26,728), Joseph A. Calvaruso (Reg. No. 28,287), James W. Gould (Reg. No. 28,859), Richard C. Komson (Reg. No. 27,913), Israel Blum (Reg. No. 26,710), Bartholomew Verdrame (Reg. No. 28,483), Maria C. H. Lin (Reg. No. 29,323), Joseph A. DeGirolamo (Reg. No. 28,595), Michael A. Nicodema (Ref. No. 33,199), Michael P. Dougherty (Ref. No. 32,730), Seth J. Altas (Reg. No. 32,454), Andrew M. Riddles (Reg. No. 31,657), Bruce D. DeRenzi (Reg. No. 33,676), Michael M. Murray (Reg. No. 32,537) and Mark J.

Abate (Reg. No. 32,527); Alfred L. Haffner, Jr. (Reg. No. 18,919), Harold Haidt (Reg. No. 17,509), John T. Gallagher (Reg. No. 35,516), Steven F. Meyer (Reg. No. 35,613); Kenneth H. Sonnenfeld (Reg. No. 33,285), Edward A. Pennington (Reg. No. 32,588), Michael S. Marcus (Reg. No. 31,727) and John E. Hoel (Reg. No. 26,279) of Morgan & Finnegan, L.L.P., whose address is: 345 Park Avenue, New York, New York 10154.

[] I hereby authorize the U.S. attorneys and/or agents named hereinabove to accept and follow instructions from _____ as to any action to be taken in the U.S. Patent and Trademark Office regarding this application without direct communication between the U.S. attorneys and/or agents and me. In the event of a change in the person(s) from whom instructions may be taken I will so notify the U.S. attorneys and/or agents named hereinabove.

Full name of sole or first inventor Koji OKAMURA

Inventor's signature* Koji Okamura date April 2, 1999

Residence 13-2-208, Kitakashiwadai, Kashiwa-shi, Chiba-ken, Japan

Citizenship Japan

Post Office Address c/o Canon Kabushiki Kaisha,
30-2, Shimomaruko 3-chome, Ohta-ku, Tokyo, Japan

Full name of second joint inventor, if any _____

Inventor's signature* _____ date _____

Residence _____

Citizenship _____

Post Office Address _____

[] ATTACHED IS ADDED PAGE TO COMBINED DECLARATION AND POWER OF ATTORNEY FOR SIGNATURE BY THIRD AND SUBSEQUENT INVENTORS FORM.

* Before signing this declaration, each person signing must:

1. Review the declaration and verify the correctness of all information therein; and
2. Review the specification and the claims, including any amendments made to the claims.

After the declaration is signed, the specification and claims are not to be altered.

To the inventor(s):

The following are cited in or pertinent to the declaration attached to the accompanying application:

Title 37, Code of Federal Regulation, § 1.56

Duty to disclose information material to patentability.

(a) A patent by its very nature is affect with a public interest. The public interest is best served, and the most effective patent examination occurs when, at the time an application is being examined, the Office is aware of and evaluates the teachings of all information material to patentability. Each individual associated with the filing and prosecution of a patent application has a duty of candor and good faith in dealing with the Office, which includes a duty to disclose to the Office all information known to that individual to be material to patentability as defined in this section. The duty to disclose information exists with respect to each pending claim until the claim is canceled or withdrawn from consideration, or the application becomes abandoned. Information material to the patentability of a claim that is canceled or withdrawn from consideration need not be submitted if the information is not material to the patentability of any claim remaining under consideration in the application. There is no duty to submit information which is not material to the patentability of any existing claim. The duty to disclose all information known to be material to patentability is deemed to be satisfied if all information known to be material to patentability of any claim issued in patent was cited by the Office or submitted to the Office in the manner prescribed by §§1.97(b)-(d) and 1.98. However, no patent will be granted on an application in connection with which fraud on the Office was practiced or attempted or the duty of disclosure was violated through bad faith or intentional misconduct. The Office encourages applicants to carefully examine:

- (1) prior art cited in search reports of a foreign patent office in a counterpart application, and
- (2) the closest information over which individuals associated with the filing or prosecution of a patent application believe any pending claim patentably defines, to make sure that any material information contained therein is disclosed to the Office.

Title 35, U.S. Code § 101

Inventions patentable

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Title 35 U.S. Code § 102

Conditions for patentability; novelty and loss of right to patent

A person shall be entitled to a patent unless –

- (a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for patent,
- (b) the invention was patented or described in a printed publication in this or foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States, or

- (c) he has abandoned the invention, or
- (d) the invention was first patented or caused to be patented, or was the subject of an inventor's certificate, by the applicant or his legal representatives or assigns in a foreign country prior to the date of the application for patent in this country on an application for patent or inventor's certificate filed more than twelve months before the filing of the application in the United States, or
- (e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent, or
- (f) he did not himself invent the subject matter sought to be patented, or
- (g) before the applicant's invention thereof the invention was made in this country by another had not abandoned, suppressed, or concealed it. In determining priority of invention there shall be considered not only the respective dates of conception and reduction to practice of the invention, but also the reasonable diligence of one who was first to conceive and last to reduce to practice, from a time prior to conception by the other ...

Title 35, U.S. Code § 103

Conditions for patentability; non-obvious subject matter

A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Subject matter developed by another person, which qualifies as prior art only under subsection (f) or (g) of section 102 of this title, shall not preclude patentability under this section where the subject matter and the claimed invention were, at the time the invention was made, owned by the same person or subject to an obligation of assignment to the same person.

Title 35, U.S. Code § 112 (in part)

Specification

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise and exact terms also enable any person skilled in the art to which it pertains, or with which it is mostly nearly connected, to make and use the same, and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Title 35, U.S. Code § 119

Benefit of earlier filing date in foreign country; right of priority

An application for patent for an invention filed in this country by any person who has, or whose legal representatives or assigns have, previously regularly filed an application for a patent for the same invention in a foreign country which affords similar privileges in the case of applications filed in the United States or to citizens of the United States, shall have the same effect as the same application would have if filed in this country on the date on which the application for patent for the same invention was first filed in such foreign country, if the application in this country is filed within twelve months from the earliest date on which such

foreign application was filed; but no patent shall be granted on any application for patent for an invention which had been patented or described in a printed publication in any country more than one year before the date of the actual filing of the application in this country, or which had been in public use or on sale in this country more than one year prior to such filing.

Title 35, U.S. Code § 120

Benefit or earlier filing date in the United States

An application for patent for an invention disclosed in the manner provided by the first paragraph of section 112 of this title in an application previously filed in the United States, or as provided by section 363 of this title, which is filed by an inventor or inventors named in the previously filed application shall have the same effect, as to such invention, as though filed on the date of the prior application, if filed before the patenting or abandonment of or termination of proceedings on the first application or an application similarly entitled to the benefit of the filing date of the first application and if it contains or is amended to contain a specific reference to the earlier filed application.

Please read carefully before signing the Declaration attached to the accompanying Application.

If you have any questions, please contact Morgan & Finnegan, L.L.P.

FORM:COMB-DEC.NY
Rev. 5/21/98